

fields. These artefacts are commonly described as 'dynamic false contour effect'. To compensate for this effect motion estimators are used and with the resulting motion vectors corrected sub-field code words are calculated for the critical pixels. Today's motion estimators work with the luminance signal component of the pixels. This is not sufficient for plasma displays. It is therefore proposed to make the motion vector calculation separately for the colour components and with either the sub-field code words as data input or with single bit data input for performing motion estimation separately for single sub-fields or for a sub-group of bits from the sub-field code words. The proposal also concerns apparatuses for performing the inventive method.--

REMARKS


The specification has been amended to include a reference to the priority applications.

Claims 1,3, and 5-9 (which are annexes of the International Preliminary Examination Report) have been amended to remove reference indicia, to remove multiple dependences and to meet the requirements of the United States Patent and Trademark Office. Claims 2 and 4 are unchanged.

To meet the requirements of the United States, the Abstract (as originally filed in the PCT application) is added.

No fee is believed to have been incurred by virtue of this amendment.
However if a fee is incurred on the basis of this amendment, please charge such fee
against deposit account 07-0832

Respectfully submitted,
Sebastien Weitbruch
Carlos Correa
Rainer Zwing


Sammy S. Henig
Attorney for Applicant
Registration No. 30,263
609/734-9751

THOMSON multimedia Licensing Inc.
Patent Operation
PO Box 5312
Princeton, NJ 08543-5312

March 26, 2002

10089361.032602

MARKED UP VERSION OF THE AMENDED CLAIMS

Please amend claims 1, 3 and 5-9 (which are annexes of the International Preliminary Examination Report) as follows. A marked-up version of the claims is attached herewith.

- 1.(AMENDED) Method for processing video pictures for display on a display device having a plurality of luminous elements corresponding to the pixels of a picture, wherein the time duration of a video frame or video field is divided into a plurality of sub-fields [(SF)] during which the luminous elements can be activated for light emission in small pulses corresponding to a sub-field code word which is used for brightness control, wherein to each sub-field a specific sub-field weight is assigned, wherein with motion estimation motion vectors are calculated for pixels in a video picture, and these motion vectors are used to determine corrected sub-field code words for pixels, [characterized in that] wherein, a motion vector calculation is being made separately for one or more colour component [(R,G,B)] of a pixel, wherein for the motion vector calculation the sub-field code words are used as data input instead of the video signal samples for a colour component, and wherein the motion vector calculation is done based on the complete sub-field code words or based on code words that are formed from the entries in the sub-field code words of only a sub-group of sub-fields from the plurality of sub-fields and the motion vector defines a trajectory along which corrected sub-field code words will be placed.
- 3.(AMENDED) Method for processing video pictures for display on a display device having a plurality of luminous elements corresponding to the pixels of a picture, wherein the time duration of a video frame or video field is divided into a plurality of sub-fields [(SF)] during which the luminous elements can be activated for light emission in small pulses corresponding to a sub-field code word which is used for brightness control, wherein to each sub-field a specific sub-field weight is assigned, wherein motion vectors are calculated for pixels in a video picture, and these motion vectors are used to determine corrected sub-field code words for pixels, [characterized in that] wherein, a motion vector calculation is being made separately for one or more colour component [(R,G,B)] of a pixel, and for the motion vector calculation the sub-field code

words are used as data input instead of the video signal samples for a colour component, and wherein a motion vector calculation is done based on a single bit picture, wherein each pixel of the single bit picture is equal to a dedicated entry of the corresponding sub-field code word for that pixel, namely the entry for a dedicated single sub-field from the plurality of sub-fields.

- 5.(AMENDED) Method according to claim 3 [or 4], wherein motion vectors are calculated separately for those sub-fields having the higher sub-field weights.
- 6.(AMENDED) Method according to claim 3 [or 5], wherein the resulting motion vectors calculated from single bit pictures for a pixel are averaged and the averaged motion vector is used to calculate corrected sub-field code word entries for the sub-field code words.
- 7.(AMENDED) Method according to [one of claims 1 to 6] claim 1, wherein for the determination of corrected sub-field code words sub-field entry shifts are calculated for a given pixel based on the calculated motion vector and wherein the sub-field entry shifts determine which sub-field entry in the sub-field code word of a given pixel need to be shifted to which pixel position along the direction of the motion vector.
- 8.(AMENDED) Method according to [one of claims 1 to 7] claim 1, wherein it is used in a plasma display device for dynamic false contour compensation.
- 9.(AMENDED) Apparatus for performing the method of claim 3, having a sub-field coding unit for each colour component video data, [characterized in that] wherein, the apparatus further has motion estimators for each colour component and the motion estimators are sub-divided in a plurality of single bit motion estimators [(ME)] which receive as input data the single bit pixels from the sub-field code words for performing motion estimation separately for a single sub-field and that the apparatus has a corresponding plurality of compensation blocks [(dFCC)] for calculating corrected sub-field code word entries.

2092501966001